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NOTE ON THE GERMINATION OF NEPENTHES SEEDS SOWN ON AGAR

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THE writer was supplied with seeds of a species of *Nepenthes* which had been collected August 8, 1937 by Professor C. T. Brues of Harvard University. The exact place of collection was the slope of Mt. Sapoeton on the northern end of the island of Celebes in the Dutch East Indies. This species was growing at an elevation of approximately 4500 ft. in cindery, undulating, open country, and the plants from which the seeds were obtained had produced pitchers which were between five and six inches in length.

The seeds were sown November 5, 1937 on a sterile agar medium of the formula recommended by Knudson¹ for orchid seeds. Of necessity, all aseptic precautions were taken and the seeds were sterilized for twenty minutes in a solution of calcium hypochlorite in which ten grams of this substance were shaken with 140 c.c. of distilled water. Perhaps the seeds should have been left even long-

¹Knudson, L. Nonsymbiotic germination of orchid seeds. Bot. Gaz. 73: 1-25. 1922.

Ca(NO ₃) ₂	1.00 gm.	(NH ₄) ₂ SO ₄	0.50 gm.
K ₂ HPO ₄	0.25 "	Sucrose	20.00 "
MgSO ₄ ·7H ₂ O	0.25 "	Agar	15.00 "
FePO ₄	0.05 "	Dist. water	1,000 c.c.

er in the sterilizing solution because a few of the flasks subsequently became contaminated.

By December 3, 1937 it was noted that these seeds had begun to germinate definitely and two leaves were observed to have been produced by December 13th. Very close to 100% germination had occurred by this time. On January 20, 1938, the flasks were rinsed with distilled water, thus washing the seedlings from the agar and onto cheesecloth, from whence they were picked off and placed on fine peat in pots. At this time (two and one half months) they were about 8 mm. high and medium green in color. No root system was at all visible to the naked eye. These plants were transferred later to very large pots and, at the present time (October 26, 1939), should be transferred once more to suitable baskets or the like. During the past summer the plants grew quite rapidly and the longest leaves now measure 23–25 cm. from base of petiole to leaf tip. Pitchers are of varying lengths, some being 6–7 cm. in length. A drawing (one seventh natural size), showing the plants in October 1939, is appended.

Because the plants are still quite young, only a tentative identification has been made. All indications are that they are *Nepenthes maxima* Reinw. Danser¹, moreover, states that this species is the one most commonly encountered in the part of Celebes from which the plants in question originated, and that previous collections have been made of this species from Mt. Sapoeton.

Although seedlings of *N. maxima* can be raised by the ordinary methods of cultivation and, according to Bailey², thrive well, it is doubtful whether the results

¹ Danser, B. H. Contributions à l'étude de la flore des Indes néerlandaises 15. Bull. Jard. Bot. Buitenzorg 9: 249-438. 1928.

² Bailey, L. H. Standard Cyclopedia of Horticulture. 4: 2125, 1916.



NEPENTHES SP.

are as satisfactory as is the case with the agar method. If contamination is kept to the minimum and the seeds are comparatively fresh, almost 100% germination may be achieved on agar. Development up to a point where seedlings may be picked off onto pots is rapid, and the young plants seem quite healthy at this time. It is hoped that this note will be of aid to those wishing to utilize *Nepenthes* seed material in the most efficient manner possible, as would be the case where a large percentage of germination is desired.